

Exhibit D

**UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.**

**Before the Honorable Charles E. Bullock
Chief Administrative Law Judge**

In the Matter of

**CERTAIN LASER ABRADED DENIM
GARMENTS**

Investigation No. 337-TA-930

**COMMISSION INVESTIGATIVE STAFF'S
INITIAL CLAIM CONSTRUCTION BRIEF**

Margaret D. Macdonald, Director
Anne Goalwin, Supervisory Attorney
Peter J. Sawert, Investigative Attorney
OFFICE OF UNFAIR IMPORT INVESTIGATIONS
U.S. International Trade Commission
500 E Street SW, Suite 401
Washington, D.C. 20436
(202) 205-3228
(202) 205-2158 (facsimile)

January 14, 2015

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	PROCEDURAL HISTORY.....	1
III.	LEGAL STANDARDS.....	2
A.	Claim Construction.....	2
B.	Indefiniteness	4
IV.	DISCUSSION.....	5
A.	Disputed Claim Terms from the Asserted '444 Patent Claims	6
1.	“energy density per unit time”	6
2.	“continuous power”	9
3.	“energy per unit time”	11
4.	“undesired carbonization, melting or burn-through” / “undesired carbonization, melting or vaporization” / “undesirable burning, melting-through or carbonizing the material”	13
5.	“controllable movable laser”	15
B.	Disputed Claim Terms from the Asserted '602 Patent Claims	17
1.	“speed of said specific material relative to the laser”	17
2.	“carbonization, undesired burn through or undesired melting of the material of the product” / “undesirably fully penetrating the material, carbonization of the material, melting or burn-through of the material” / “undesired damage” / “undesirably damaging” / “damage to the material”	18
3.	“process operating speed”	19
4.	“determining” / “determine” / “determined” [an operating parameter such as maximum speed]	20
5.	“imperfect pattern”	21
C.	Disputed Claim Terms from the Asserted '196 Patent Claims	22
1.	“undesired damage” / “overetching”	22
2.	“investigating the pattern to determine if the pattern includes elements which are more likely to cause undesired damage to the material when applied to the material by the laser”	23
3.	“controllable movable laser”	24
D.	Disputed Claim Terms from the Asserted '505 Patent Claims	24

1. “mathematical operation”	24
E. Disputed Claim Terms from the Asserted ’972 Patent Claims	25
1. “effective applied power” / “effective applied power levels” / “effective applied energy” / “effective output power”	25
V. CONCLUSION	31

TABLE OF AUTHORITIES

Cases

<i>ACTV, Inc. v. TheWalt Disney Co.</i> , 346 F.3d 1082 (Fed. Cir. 2003).....	3
<i>Azure Networks, LLC v. Cambridge Silicon Radio International, LLC</i> , 771 F.3d 1336, 1352 (Fed. Cir. 2014)	20
<i>Brown v. 3M</i> , 265 F.3d 1349 (Fed. Cir. 2001).....	2
<i>Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.</i> , 296 F.3d 1106 (Fed. Cir. 2002)	2
<i>Chimie v. PPG Indus., Inc.</i> , 402 F.3d 1371 (Fed. Cir. 2005).....	4
<i>Datamize, LLC v. Plumtree Software, Inc.</i> , 417 F.3d 1342 (Fed. Cir. 2005).....	14
<i>Datamize, LLC v. Plumtree Software, Inc.</i> , 417 F.3d 1342, 1350 (Fed. Cir. 2005).....	5
<i>Eibel Process Co. v. Minnesota & Ontario Paper Co.</i> , 261 U.S. 45, 65-66 (1923)	5
<i>Enzo Biochem, Inc. v. Applera Corp.</i> , 599 F.3d 1325, 1336 (Fed. Cir. 2010).....	5
<i>Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.</i> , 381 F.3d 1111 (Fed. Cir. 2004).....	2
<i>Interval Licensing LLC v. AOL, Inc.</i> , 766 F.3d 1364, 1371 (Fed. Cir. 2014)	5
<i>Markem-Imaje Corp. v. Zipher Ltd.</i> , 657 F.3d 1293, 1301 (Fed. Cir. 2011).....	20
<i>Markman v. Westview Instruments Inc.</i> , 52 F.3d 969 (Fed. Cir. 1995) (en banc)	2, 3
<i>Microsoft Corp. v. i4i Ltd. P'ship</i> , 131 S. Ct. 2238 (2011)	4
<i>Nautilus, Inc. v. Biosig Instruments, Inc.</i> , 134 S. Ct. 2120, 2124 (2014).....	4, 14
<i>Netword, LLC v. Centraal Corp.</i> , 242 F.3d 1347, 1352 (Fed. Cir. 2001).....	20
<i>Network Commerce, Inc. v. Microsoft Corp.</i> , 422 F.3d 1353 (Fed. Cir. 2005)	4
<i>O2 Micro Int'l Limited v. Beyond Innovation Technology Co.</i> , 521 F.3d 1351 (Fed. Cir. 2008).....	2
<i>Phillips v. A.W.H. Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) (en banc).....	2, 3, 4
<i>United States v. Adams</i> , 383 U.S. 39, 49 (1966).....	20
<i>Vitronics v. Conceptronic</i> , 90 F.3d 1576 (Fed. Cir. 1996).....	3

Statutes

19 U.S.C. § 1337.....	1
35 U.S.C. § 112, ¶ 2.....	passim

I. INTRODUCTION

Pursuant to Order No. 11 setting the procedural schedule, the Commission Investigative Staff (the “Staff”) hereby submits its initial claim construction brief. Pursuant to the Notice of Institution, the Staff is participating fully in this investigation. 79 Fed. Reg. 56828-29 (Sept. 23, 2014).

II. PROCEDURAL HISTORY

Complainants RevoLaze, LLC and TechnoLines, LLC (“Complainants”) and Respondents Abercrombie & Fitch Co.; American Eagle Outfitters, Inc.; The Buckle, Inc.; Diesel S.p.A.; The Gap, Inc.; Guess?, Inc.; H&M Hennes & Mauritz AB; H&M Hennes & Mauritz LP; Koos Manufacturing, Inc.; Levi Strauss & Co.; Lucky Brand Dungarees, LLC; and VF Corporation (collectively, “Respondents”) filed their initial claim construction briefs on January 9, 2015. This investigation is based on a Complaint filed by Complainants on August 18, 2014 under Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. §1337, naming Abercrombie & Fitch Co.; American Eagle Outfitters, Inc.; BBC Apparel Group, LLC; Gotham Licensing Group, LLC; The Buckle, Inc.; Buffalo International ULC; 1724982 Alberta ULC; Diesel S.p.A.; DL1961 Premium Denim Inc.; Eddie Bauer LLC; The Gap, Inc.; Guess?, Inc.; H&M Hennes & Mauritz AB; H&M Hennes & Mauritz LP; Roberto Cavalli S.p.A.; Koos Manufacturing, Inc.; Levi Strauss & Co.; Lucky Brand Dungarees, LLC; Fashion Box S.p.A.; and VF Corporation as respondents. *Id.* On December 22, 2014, the Chief Administrative Law Judge issued Initial Determinations terminating Fashion Box S.p.A., Eddie Bauer LLC, BBC Apparel Group, LLC, and Gotham Licensing Group, LLC from the investigation pursuant to settlement agreements. Order Nos. 17-19. On January 7, 2014, Complainants filed a motion to

amend the complaint and notice of institution to add additional respondents and extend the target date in the investigation. Mot. Dkt. No. 930-025.¹

III. LEGAL STANDARDS

A. Claim Construction

Claim construction is a matter of law. *Markman v. Westview Instruments Inc.*, 52 F.3d 969, 976 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370, 116 S. Ct. 1384 (1996). “When the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to resolve it.” *O2 Micro Int’l Limited v. Beyond Innovation Technology Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008). The ordinary and customary meaning of the language of a claim to one of ordinary skill in the art at the time of the invention is the starting point for the analysis. *Phillips v. A.W.H. Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). The ordinary meaning of a claim term as understood by a person of ordinary skill in the art may, in some circumstances, be readily apparent to laymen. *Brown v. 3M*, 265 F.3d 1349, 1352 (Fed. Cir. 2001). Every term in a claim is presumed to have meaning and any construction that would render a claim term superfluous is discouraged. *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1119 (Fed. Cir. 2004) (“While not an absolute rule, all claim terms are presumed to have meaning in a claim.”); *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1115 (Fed. Cir. 2002) (“An alternative construction would render the first monitoring term meaningless. That construction is therefore improper; this court will not rewrite claims.”). In

¹ The motion to amend includes a request to modify the procedural schedule in accordance with the requested target date extension in order to preserve the due process rights of the newly added respondents. Should the Chief ALJ grant the motion, the Staff reserves the right to modify its claim construction positions as set forth herein in response to any new discovery provided pursuant to a modified procedural schedule and further meet-and-confer discussions between the parties.

short, “[t]he claims themselves provide substantial guidance as to the meaning of particular claim terms.” *Phillips*, 415 F.3d at 1314; *ACTV, Inc. v. The Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003) (“the context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms”).

Additionally, “the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313. In construing the claims, the court should also consider the specification and “the patent’s prosecution history, if it is in evidence.” *Markman*, 52 F.3d at 976, 980.

The specification may act as a dictionary, explaining the invention and defining the terms used in the claims, and a patentee may act as his or her own lexicographer by clearly giving special definition to words in the specification. *Markman*, 52 F.3d at 1316; *Vitronics v. Conceptronic*, 90 F.3d 1576, 1582-83 (Fed. Cir. 1996). But, the specification (and prosecution history) should not “enlarge, diminish or vary” the limitations of the claims. *Vitronics*, 90 F.3d at 1582-83; *Markman*, 52 F.3d at 979–80; *Intel Corp. v. U.S. Int’l Trade Comm’n*, 946 F.2d 821, 836 (Fed. Cir. 1991) (“Where a specification does not require a limitation, that limitation should not be read from the specification into the claims.”).

In addition, the prosecution history “provides evidence of how the PTO and the inventor understood the patent.” *Phillips*, 415 F.3d at 1317. As such, “it may inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.*; *Vitronics*, 90 F.3d at 1582-83; *see also Chimie v. PPG Indus.*,

Inc., 402 F.3d 1371, 1384 (Fed. Cir. 2005) (“The purpose of consulting the prosecution history in construing a claim is to exclude any interpretation that was disclaimed during prosecution.”).

Extrinsic evidence may also be considered, if needed, to assist in determining the meaning or scope of technical terms in the claims. *Phillips*, 415 F.3d at 1317-18. Expert testimony may be useful to “provide background on the technology at issue, to explain how an invention works, to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318. However, it remains the intrinsic record, including the specification and prosecution history, which is the most significant evidence and thus determinative for interpreting the legally operative meaning of patent claim language. *Id.* at 1317. Indeed, “[e]xpert testimony at odds with the intrinsic evidence must be disregarded.” *Network Commerce, Inc. v. Microsoft Corp.*, 422 F.3d 1353, 1361 (Fed. Cir. 2005) (holding that unsupported conclusions concerning patent claims provide little support for suggested claim construction).

B. Indefiniteness

A patent specification must “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as [the] invention.” 35 U.S.C. § 112, ¶ 2. “[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). A term of degree, such as “local to,” fails to provide sufficient notice of its scope “if it depends ‘on the unpredictable vagaries of any one

person's opinion.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (quoting *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005)). Nevertheless, the Federal Circuit has held:

We do not understand the Supreme Court to have implied in *Nautilus*, and we do not hold today, that terms of degree are inherently indefinite. Claim language employing terms of degree has long been found definite where it provided enough certainty to one of skill in the art when read in the context of the invention.

Id. at 1370 (citing *Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U.S. 45, 65-66 (1923)). To determine whether enough certainty has been provided, “we must look to the written description for guidance.” *Id.* “[A] patent which defines a claim phrase through examples may satisfy the definiteness requirement.” *Id.* at 1373 (citing *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1336 (Fed. Cir. 2010)) (declining to “cull out” single example as exclusive definition of facially subjective claim term).

IV. DISCUSSION

The Staff has no objection to the agreed upon constructions for “critical operating speed” and “controlling a relative movement between a marking device that produces a focused beam of radiation which will be used to mark the material, and said material” as identified on page 8 of Respondents’ Opening Claim Construction Brief.

A. Disputed Claim Terms from the Asserted '444 Patent Claims

1. “energy density per unit time”²

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
$\left(\frac{\text{Continuous Power (watts)}}{\text{Area of Spot (mm}^2\text{)}} \right) \left(\frac{1}{\text{Speed (mm/sec)}} \right)$	<p>(Continuous power (watts) / (area of spot (mm²))) (1 / speed (mm/sec))</p> <p>where “continuous power” is a continuous power output of the laser during the scribing, “area of spot” is an area of a spot formed by the laser beam on the material when the laser beam is stationary relative to the material, and “speed” is a speed of the laser beam relative to the material during the scribing.</p>	<i>Staff generally supports Respondents’ proposed construction. The Staff believes that the construction for “continuous power,” argued separately below should be incorporated into Respondents’ proposed construction of “energy density per unit time” in order to avoid construing “continuous power” in two parts.</i>

The Staff generally supports the Respondents’ proposed construction of “energy density per unit time.” In the “Background of the Invention,” the ’444 patent describes “a new energy

² The term “energy density per unit time” appears in claims 1, 2, 8, 21, 33, 34, and 46 of the ’444 patent (claims 1, 21, and 33 are independent claims). In order to avoid duplication of claim language, the Staff believes that for claim 1 the Chief ALJ should construe the fuller phrase:

energy density per unit time . . . where the energy density per unit time is defined as: (watts-sec/mm³) = (continuous power (watts)/(area of spot (mm²))(1/speed (mm/sec)) where continuous power is a continuous power output of the laser during the scribing, area of spot is an area of a spot formed by the laser beam on the material when the laser beam is stationary relative to the material, and speed is a speed of the laser beam relative to the material during the scribing.

As will be described further, the Staff believes that the term “energy density per unit time” in claims 2, 8, 21, 33, 34, and 46 should be construed to have the same meaning as the quoted language from claim 1. Although the result with regard to claim 21 would read slightly awkwardly, it would not technically produce duplicative language. The Staff therefore does not propose construction of additional claim language with regard to claim 21.

Commission Investigative Staff’s Initial Claim Construction Brief

measurement called Energy Density Per Unit Time (hereinafter referred to as ‘EDPUT’)) as a “key[] to the invention.” Complaint Ex. 1-A, ’444 patent col.2 ll.1-4. The private parties are in agreement that the claim term “energy density per unit time” should be construed in accordance with the explicit definition of EDPUT at column 2, line 30 of the ’444 patent (below),

$$\text{EDPUT (watts-sec/mm}^3\text{)} = \left(\frac{\text{Continuous Power (watts)}}{\text{Area of Spot (mm}^2\text{)}} \right) \left(\frac{1}{\text{Speed (mm/sec)}} \right)$$

which is further specifically incorporated in the language of asserted claim 1 and unasserted claims 17, 19, and 20. Complaint Ex. 1-A. The private parties dispute, however, whether the definitions of the terms of that formula (“continuous power,” “area of spot,” and “speed”) should also be incorporated in the construction of “energy density per unit time.” Respondents propose definitions for these terms, drawn from the specification, while Complainants do not.

In the Staff’s view, there can be no dispute that the second portion of Respondents’ proposed construction (defining the formula terms) is correct with regard to claim 1, and claims 2 and 8 which depend therefrom, given that the same language is explicitly recited in claim 1.

Also, claim 21, explicitly requires:

controlling an energy density per unit time during the scribing by controlling all of continuous power output of the laser during scribing, area of a spot formed by the laser beam on the material when the laser beam is stationary relative to the material, and speed of the laser beam relative to the material during the scribing

Although this language differs slightly from that of claim 1, it is clear that it imposes the same limitations with regard to the construction of “energy density per unit time.” Complainants do not address the further language of claims 1 and 21 in their Opening Claim Construction Brief.

This leaves only claim 33, claim 34 which depends therefrom, and claim 46.

Complainants' argument appears to be that definitions of "continuous power," "area of spot," and "speed" provided elsewhere are not explicitly recited in claims 33 and 46 and thus are not claim limitations. There are two problems with this argument. First, the EDPUT formula terms "continuous power," "area of spot," and "speed" standing alone are not self-defining. Instead, those phrases prompt the further questions: continuous power of what; area of what spot; speed of what? Second, the definitions provided in Respondents' proposed construction are consistent with the explicit definitions in the '444 patent specification, asserted claim 1 (and at least by inference, claim 21), and unasserted claims 17, 19, and 20. Complaint Ex. 1-A, '444 patent col.6 ll.40-43, 45-47, col.7 ll.7-8, claims 1, 17, 19, 20, and 21. The Staff has identified no other definitions of these formula terms in the '444 patent specification, and Complainants identify no such examples or alternate embodiments in their Opening Claim Construction Brief.

For these reasons, the Staff believes that "energy density per unit time" and the longer, relevant claim language from claim 1 should be construed as proposed by Respondents.

2. “continuous power”³

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
average power	power output of a continuous wave laser, as distinguished from the power output when the laser has a temporary energy surge, or when the laser is pulsed	<i>Staff supports Complainants’ proposed construction.</i>

The Staff supports the Complainants’ proposed construction of “continuous power.” In view of the ’444 patents description of the use of a pulsed laser in the described experiments, a person of ordinary skill in the art would have understood “continuous power” to refer to the average output power of the laser. *See* Complainants’ Opening Claim Construction Brief, Ex. A at ¶¶ 27-30. The possibility of different pulse frequencies and the variation in output power from zero at times between pulses to a high momentary value at the pulse peaks make the average energy per unit of time (average power) a useful way to characterize the power directed to the surface of the material by a pulsed laser. The Respondents’ proposed construction is based upon a misinterpretation of a single sentence in the ’444 patent specification that is not reasonable in view of the specification of the ’444 patent as a whole. Respondents’ argument primarily rests on the following sentence from the ’444 patent specification: “The ‘continuous power’ is the continuous power output of the laser, as distinguished from the power output when the laser has

³ The term “continuous power” appears in asserted claims 1 and 21 of the ’444 patent (both claims are independent). The Staff believes that if the Chief ALJ adopts the construction of “energy density per unit time” proposed by the Respondents and the Staff, the construction of “continuous power” should be incorporated into the construction of “energy density per unit time” to avoid construing “continuous power” in two separate parts. Specifically, the Staff would replace the portion of Respondents’ construction for EDPUT that reads “where continuous power is a continuous power output of the laser during the scribing” with “where continuous power is an average power output of the laser during the scribing.”

a temporary energy surge, or when the laser is pulsed.” Complaint Ex. A-1, ’444 patent col.6 ll.40-43. Respondents read the final phrase “when the laser is pulsed” to essentially mean ‘when the laser is operated in a pulsed mode.’ Standing alone, that interpretation could be reasonable, but it is not reasonable in view of the specification as a whole.

Another interpretation of the sentence cited by Respondents is that when the specification is distinguishing the output power “when the laser is pulsed,” it is intended to be read more literally. In other words, the specification is distinguishing “continuous power” from the output power of the laser during the actual pulses in a pulsed mode of operation (i.e., from the peak output power of the laser in a pulsed mode of operation). This reading also makes sense in context of the sentence itself because it is analogous to the “temporary energy surge” that is also referenced.

This latter interpretation of the cited passage as intended to distinguish continuous power from the peak power of a pulsed laser is confirmed by looking at the broader context of the patent specification. The specification’s description of the experimental parameters describes the “Frequency” as ranging from “200 Hz-5,000 Hz” (which is not simply the inverse of the “Wavelength” value), suggesting that a pulsed mode laser was used. Complaint Ex. A-1, ’444 patent at col.6 ll.28-39. Again describing the first series of experiments, the specification states that the “frequency (5000 Hz) and wavelength (10,600 nm) of the laser were held constant.” *Id.* at col.8 ll.10-18. Describing another experiment, the specification is even more specific with regard to what the frequency value describes:

The normal *operating frequency of the laser* used for the experiments was 5,000 Hz. This frequency produced a continuous line when the laser was used to scribe a line on the material. However, in order to create an additional effect of

discontinuous lines or a stitched pattern, a new technique was used to pulse the laser at very low frequency from about 200 Hz to about 2000 Hz.

Id. at col.27 l.66-col.28 l.5; *see also id.* at col.18 ll.43-49. Moreover, the specification's clarification that a continuous line was produced at the normal operating frequency only makes sense if the laser was being operated in a pulsed, as opposed to continuous mode. And the specification explicitly describes pulsing the laser at much lower frequencies.⁴

Respondents' attempts to explain this portion of the specification away by arguing that it describes turning a continuous wave laser on and off rather than a pulse mode laser make little sense. First, manually cycling a continuous wave laser on and off up to 2000 times per second is simply not practicable. Second, introducing electronics to control the cycling of power to the laser or manipulate its optical path would in effect convert it to a pulsed laser.

For these reasons, the Staff believes that "continuous power" should be construed as proposed by Complainants.

3. "energy per unit time"⁵

Complainant's Proposed Construction	Respondents' Proposed Construction	Staff's Proposed Construction
plain and ordinary meaning	<i>synonymous with</i> "energy density per unit time"	continuous power

The Staff essentially agrees with Complainants' that "energy per unit time" should be given its plain and ordinary meaning and disagrees with Respondents' argument that "energy per

⁴ There is one additional reference to a laser pulse in the specification. *See* Complaint Ex. A-1, '444 patent col.27 ll.25-36. However, the Staff believes this reference to be inapposite to this argument as it appears to concern a power surge associated with the startup of the laser that would potentially affect both continuous wave lasers and pulse lasers.

⁵ The term "energy per unit time" appears in asserted claims 46, 69, and 72 (all independent).

unit time” is intended to have the same meaning as “energy density per unit time.” The Staff believes that in the context of the asserted claims, the plain and ordinary meaning of “energy per unit time” is a reference to the continuous power component of the EDPUT formula.

The phrase “energy per unit time” does not appear in the ’444 patent specification. However, energy per unit time is another way of defining power (e.g., 1 watt = 1 joule/sec). Given that understanding and the lack of description of other alternate power variables, a person of ordinary skill in the art would have understood “energy per unit time” to be a reference to the continuous output power of the laser—one of three identified “laser operating parameters which influence EDPUT.” *See* Complaint, Ex. A-1 col.2 ll.1-6, 26-34, 44-52. In particular, the specification describes controlling the values of particular EDPUT parameters in order to control the EDPUT values: “[T]his invention teaches to control the continuous power and other variables simultaneously and within specific limits so that the EDPUT is within a range to produce the desired results.” *Id.* at col.2 ll.49-52.

The inventor’s use of both “energy density per unit time” and “energy per unit time” in claim 46 and without using “said” prior to the latter term is further indication that the inventor did not intend the terms to be synonymous. Similarly, the language in claims 46, 69, and 72 requiring controlling both “energy per unit time and per unit area” is further support for the notion that “energy per unit time” is intended as a reference to the continuous power parameter of EDPUT.

For these reasons, the Staff believes that “energy per unit time” should be construed as continuous power.

4. “undesired carbonization, melting or burn-through” / “undesired carbonization, melting or vaporization” / “undesirable burning, melting-through or carbonizing the material”⁶

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
plain and ordinary meaning [without further explication]	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>	<i>Indefinite under 35 U.S.C. § 112, ¶ 2</i>

The Staff believes that these claims terms are indefinite under 35 U.S.C. § 112, ¶ 2, as argued by Respondents, because of the inclusion of the adjective “undesired.” Complainants appear to argue in their Initial Claim Construction Brief that they do not fully appreciate the basis of the indefiniteness argument and are therefore unprepared to fully address it.

Complainants argue that all of the words in these claim construction have plain and ordinary meaning, but do not offer any explanation of that meaning or a specific proposed construction that would reflect the plain and ordinary meaning.

When using the terms “carbonization,” “melting,” or “burn-through,” the ’444 patent specification nearly always references an undesirable condition of “complete carbonization, melting, and/or burn-through.” *See, e.g.*, Complaint Ex. A-1, ’444 patent col.1 ll.51-52, col.2 ll.12-13, 21-22, col.4 ll.54-58, col.11 ll.2-4, col.13 ll.66-67, col.15 ll.15-16, col.19 ll.51, 55-56, col.21 ll.3-4, col.26 ll.62-63, col.27 ll.1-3, 10-11, 41-42, 46-47, col.31 ll.30-31, 49-54, 66-67. There is also a single reference in the description of attempts to create “frayed look” materials of “complete carbonization and partial or complete burnthrough” as “intended” and thus

⁶ The tem “undesired carbonization, melting or burn-through” appears in asserted claims 1, 21, 33 (all independent and claim 21 is missing the hyphen) of the ’444 patent. The term “undesired carbonization, melting or vaporization” appears in asserted claim 46. The term “undesirable burning, melting-through or carbonizing [of] the material” appears in asserted claims 69 and 72.

presumptively desirable. *Id.* at col.18 ll.14-17. Dependent claims 4 and 23 (which depend from asserted claims 1 and 21, respectively) separately require that the laser is controlled to “avoid complete carbonization, melting and burnthrough,” strongly indicating that the inventor did not intend “undesired” to be synonymous with or limited to “complete” carbonization, etc. There is no other description in the ’444 patent specification of any factors, tests, or other objective indicators that would have allowed a person of ordinary skill in the art to determine whether a particular amount or level of “carbonization, melting or burn-through” is undesirable.

Given the absence of objective measurements or guidance in the specification or prosecution history, a person of ordinary skill in the art interpreting the claims of ’444 patent would be left to make a subjective determination regarding what level of “carbonization, melting, or burn-through” would have been “undesired” or “undesirable.” A meaning of “undesired” that is subjective renders it indefinite under 35 U.S.C. § 112, ¶ 2. The Federal Circuit’s analysis of the claim term “aesthetically pleasing” in *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342 (Fed. Cir. 2005) *abrogated in other grounds* by *Nautilus*, 134 S. Ct. at 2130, is particularly instructive here. Though applying the now-abrogated “insolubly ambiguous” standard, the Court in *Datamize* found the claim term “aesthetically pleasing” to be indefinite because it lacked “a workable objective standard” and was “completely dependent on a person’s subjective opinion.” *Id.* at 1350.

The scope of claim language cannot depend solely on the unrestrained, subjective opinion of a particular individual purportedly practicing the invention. Some objective standard must be provided in order to allow the public to determine the scope of the claimed invention. Even if the relevant perspective is that of the system creator, the identity of who makes aesthetic choices fails to provide any direction regarding the relevant question of how to determine whether that person succeeded in creating an “aesthetically pleasing” look and feel for [the relevant feature of the claimed device]. A purely subjective construction of “aesthetically

pleasing” would not notify the public of the patentee’s right to exclude since the meaning of the claim language would depend on the unpredictable vagaries of any one person’s opinion of the aesthetics

Id. (internal citation omitted). The ’444 patent’s use of the claim term “undesired carbonization, melting or burn-through” similarly calls for a subjective evaluation of aesthetics that is not bounded or guided by adequate objective principles and standards.

For these reasons, the Staff believes that the Chief ALJ should find the “undesired”/“undesirable” claim terms indefinite under 35 U.S.C. § 112, ¶ 2.

5. “controllable movable laser”⁷

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
plain and ordinary meaning – able to be controlled and moved	a laser in which the laser is movable with respect to the surface of a textile material and in which the parameters that influence “energy density per unit time” are capable of adjustment	able to be physically moved and to accept user inputs

The Staff believes that “controllable movable laser” should generally be given its plain and ordinary meaning—laser that is capable of physically moving and accepting user inputs. While the Staff generally agrees with Complainants’ construction, the Staff clarifies that the laser itself must be movable (i.e., redirecting the laser’s output via mirrors, lenses, or a combination thereof does not result in a “movable laser”). The Staff understands this clarification to be in accordance with the plain and ordinary meaning of “movable laser” but believes it to be necessary in view of the arguments made in the Complainants Opening Claim Construction

⁷ The term “controllable movable laser” appears in asserted claim 46 (independent).

Brief. The Respondents' proposed constructions includes additional limitations not imposed by the language being construed and contrary to or duplicative of other claim language.

The Staff believes the following portion of the '444 patent specification is particularly relevant with regard to the construction of the "controllable movable laser" term:

The "speed" is the speed of the laser beam relative to the surface of the material. The speed can be varied by controlling the movements of the x-axis mirror 13 and y-axis mirror 17 illustrated in FIG. 1. In other embodiments of the invention, the speed can be varied by controlling the movements of the laser, the movements of the material, the movements of a lens, by combinations of these methods, or by other means.

Complaint Ex. A-1, '444 patent col.7 ll.7-14. Thus, the '444 patent confirms that a "moveable laser" is one that literally allows for the physical movement of the laser itself (or at least the output portion) and not a laser that is part of a larger mechanism only allowing the manipulation of its output beam via mirrors, lenses, or a combination thereof. This understanding also comports with the context of claim 46's other language, which further requires that the "controllable movable laser, hav[e] command elements which command movement of an output of said laser to different locations on said working surface." *Id.* at col.40 ll.21-23. The '444 patent describes exemplary, alternate embodiments including a movable laser with regard to Figures 34, 36, and 43. *Id.* at col.4 ll.62-64, col.5 ll.1-3, 24-27, col.32 l.63-col.33 l.25, col.33 ll.45-63, col.35 l.62-col.36 l.13.

For these reasons, the Staff believes that "controllable movable laser" should be construed in accordance with its plain and ordinary meaning as a "laser that physically moves and accepts user inputs."

B. Disputed Claim Terms from the Asserted '602 Patent Claims

1. “speed of said specific material relative to the laser”⁸

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
plain and ordinary meaning	Speed of said specific material relative to the laser itself	<i>Staff supports Respondents’ proposed construction.</i>

The Staff believes that the Respondents’ proposed construction reflects the plain and ordinary meaning of the claim term “speed of said specific material relative to the laser.”

Complainants’ construction adds a gloss to the plain and ordinary meaning. Complainants argue that the word “laser” in the disputed term refers to the beam of the laser rather than the device itself based upon the use of the language “laser device” in unasserted claims of the ’602 patent such as claims 26, 46, 59, 68, 128, and 135. However, each of those claims separately and specifically identifies the “laser beam” as well. Complaint Ex. 1-B, ’602 patent col.15 l.20, col.17 l.43 (initially identified as an “output beam”), col.20 l.17, col.21 l.29 (initially identified as an “output of the laser device), col.27 l.64, col.28 l.43. Moreover, claim 1 itself specifically references the “laser beam” when necessary, reciting “contacting a surface of said product with the laser beam to form a design.” *Id.* at col.14 ll.1-2. Unasserted claim 24, which depends from claim 1, describes “a laser beam generated by a CO₂ laser,” indicating that the word “laser” alone references the device and not the output beam. *Id.* at col.15 l.9. Similarly, unasserted claims 57, 104, and 146 all recite a “laser, producing a laser beam,” again indicating a distinction in the two terms and that the “laser” is the device rather than its output beam. *Id.* at col.19 l.36, col.24 l.31, col.29 l.45. The ’602 patent specification also uses the term “laser” to refer to the device and the

⁸ The claim term “speed of said specific material relative to the laser” appears in asserted claim 1 (independent) of the ’602 patent.

term “laser beam” to describe the output of the device. *See, e.g., id.* at col.3 l.3, 21-23, col.7 ll.30-31, col.8 ll.10-11, 23, 30-31, col.9 l.25, col.10 ll.26-27, col.13 ll.11-12. Thus, while the ’602 patent specification may have supported a different claim similar to claim 1 and directed to a speed of the material relative to the laser beam, that is not what was claimed in claim 1.

For these reasons, the Staff believes that the ’602 patent claim term “speed of said specific material relative to the laser” should be construed in accordance with its plain and ordinary meaning as “speed of said specific material relative to the laser itself.”

2. “carbonization, undesired burn through or undesired melting of the material of the product” / “undesirably fully penetrating the material, carbonization of the material, melting or burn-through of the material” / “undesired damage” / “undesirably damaging” / “damage to the material”⁹

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
plain and ordinary meanig [without further explication]	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>	<i>Indefinite under 35 U.S.C. § 112, ¶ 2</i>

For the same reasons described above with regard to the “undesireable” claim terms of the ’444 patent, the Staff believes that the Chief ALJ should find these similarly subjective terms of the ’602 patent to be indefinite under 35 U.S.C. § 112, ¶ 2.

⁹ These claim terms appear in asserted claims 1, 53, 73, 94, 99, 112, 120, 125, and 141 of the ’602 patent (all independent except claim 122).

3. “process operating speed”¹⁰

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
A speed between a threshold speed (below which undesired damage will be caused) and a maximum speed (above which a desired physical change will not be formed) determined of a specific material to be marked	A range of speeds between the speed at which the laser beam fully penetrates the material and results in carbonization, complete melting and/or burn-through and the speed at which a design cannot be formed on the fabric	a range of speeds between a threshold speed and a maximum speed

Each of the private parties’ proposed constructions largely restates language already used in claim 73 to define the “threshold speed” and “maximum speed” that bound the “process operating speed,” and therefore add little clarity. The only substantive differences in the proposed constructions of the Complainants and Respondents are related to the meaning of the term “undesired damage,” which is being argued separately, and whether the process operating speed is a single speed or range of speeds. The Staff believes that first issue will be resolved by the Chief ALJ’s construction of “undesired damage.” With respect to the second issue, the Staff agrees with Respondents that “process operating speed” is a term that is particularly and specifically defined by the ’602 specification as a “range of speeds” distinguishable from a single “critical operating speed,” as Complainants contend. *See* Complaint Ex. 1-B, ’602 patent col.3 ll.45-52, col.4 ll.29-33, Tables I & II. Should the private parties further clarify their positions in their reply briefs, the Staff reserves the right to further address this claim term in accordance with those clarifications.

¹⁰ The claim term “process operating speed” appears in asserted claims 73, 75, 76, 81-86, 95, and 96 of the ’602 patent (claim 73 is independent).

4. “determining” / “determine” / “determined” [an operating parameter such as maximum speed]¹¹

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
plain and ordinary meaning	defining, based upon experimental data	<i>The Staff supports Respondents’ proposed construction.</i>

The Staff believes that the claimed operating parameter determinations should be restricted to those defined based upon experimental data. These determinations are key aspects of the asserted method claims of the ’602 patent. The ’602 patent specification only discloses one method for identifying operating parameters such as maximum speed, threshold speed, process operating speed, and critical operating speed. The specification discloses conducting statistically designed experiments. Complaint Ex. 1-B, ’602 patent col.3 ll.59-63, col.4 ll.33-39. “[I]t ‘is fundamental that claims are to be construed in light of the specifications and both are to be read with a view to ascertaining the invention.’” *Markem-Imaje Corp. v. Zipher Ltd.*, 657 F.3d 1293, 1301 (Fed. Cir. 2011) (quoting *United States v. Adams*, 383 U.S. 39, 49 (1966)). “Although the specification need not present every embodiment or permutation of the invention and the claims are not limited to the preferred embodiment of the invention, neither do the claims enlarge what is patented beyond what the inventor has described as the invention.” *Azure Networks, LLC v. Cambridge Silicon Radio International, LLC*, 771 F.3d 1336, 1352 (Fed. Cir. 2014) (quoting *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed. Cir. 2001)).

In view of the absence of any description of any methodology other than experimentation for determining the critical, claimed operating parameters in the ’602 patent specification, the

¹¹ These claim terms appear in asserted claims 1, 53, 73, 94, 99, 112, 120, 122, 125, and 141 of the ’602 patent (all independent except for claim 122).

Staff believes the “determining” claim terms should be construed as “defining, based upon experimental data.”

5. “imperfect pattern”¹²

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
plain and ordinary meaning [<i>without further explication</i>]	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>

In claim 112 of the ’602 patent, the claim term “imperfect pattern” appears to be associated with less than the desired change in the material, whereas in claim 125 the claim term “imperfect pattern” appears to be associated with excessive damage of the material. In any case, whether it is meant to have a wholly separate meaning or be associated with insufficient alteration or excessive damage of the material, an “imperfect pattern” calls for a subjective, aesthetic determination. As before, the ’602 patent specification discloses no reasonably objective standard or measure for determining whether a pattern is “imperfect.” Thus, for the same reasons described above with regard to the “undesirable” claim terms of the ’444 patent, the Staff believes that the Chief ALJ should find the term “imperfect pattern” of the ’602 patent to be indefinite under 35 U.S.C. § 112, ¶ 2.

¹² The claim term “imperfect pattern” appears in asserted claims 112 and 125 (both independent) of the ’602 patent.

C. Disputed Claim Terms from the Asserted '196 Patent Claims

1. “undesired damage” / “overetching”¹³

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
plain and ordinary meaning [without further explication]	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>	undesired damage - <i>indefinite under 35 U.S.C. § 112, ¶ 2</i> overetching – creation of a hole in the material

For the same reasons described above with regard to the “undesirable” claim terms of the '444 patent, the Staff believes that the Chief ALJ should find the term “undesired damage” of the '196 patent to be indefinite under 35 U.S.C. § 112, ¶ 2.

However, the Staff believes the claim term “overetching” to be amenable to construction. The term “overetching” appears only in the claims of the '196 patent and not in the specification. The claim limitation in which “overetching” appears in asserted claims 11, 13, and 16 finds its support in the following passage from the '196 specification:

Adjustments to the galvanometer setting times can also help to prevent the initial creation of a hole when the laser beam is first turned on and the initial surge of energy contacts the material. The galvanometer setting times control when the laser beam comes on relative to when the mirrors of the mirror system start to move. The best adjustment is to set the galvanometer setting times so that the mirrors begin to move just before the laser beam comes on. Thus, the first pulse of energy is distributed over a wider area of material, minimizing the potential to create a hole in the material. Newer laser systems often automatically compensate for this surging in the circuitry and program.

Complaint Ex. 1-C, '196 patent col.28 ll.32-44. Thus, a person of ordinary skill in the art would reasonably conclude that “overetching” refers to creation of a hole in the material due to a power

¹³ The claim term “undesired damage” appears in asserted claim 5 of the '196 patent. The claim term “overetching” appears in asserted claims 11, 13, and 16.

surge at the startup of the laser beam. This provides a reasonably objective standard by which the public could understand the scope of the claim. For these reasons, the Staff believes that the claim term “overetching” in the ’196 patent should be construed as “creation of a hole in the material.”

2. “investigating the pattern to determine if the pattern includes elements which are more likely to cause undesired damage to the material when applied to the material by the laser”

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
plain and ordinary meaning [without further explication]	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>

The Staff believes this claim term to be indefinite due its inclusion of the term “undesired damage” as discussed above. In addition, while the ’196 patent specification provides some suggestions as to which types of pattern elements have the potential to cause burn-through, see Complaint Ex. 1-C, ’196 patent col.28 ll.2-20, the specification provides insufficient description for a person of ordinary skill in the art to have understood what forms of pattern investigation would practice the claim limitation. In other words, a particular type of investigation is claimed as part of the claimed method but there is insufficient information in the specification to determine the scope of “investigating” being claimed. For these reasons, the Staff believes that this limitation of claim 5 of the ’196 patent should be found indefinite under 35 U.S.C. § 112, ¶ 2.

3. “controllable movable laser”¹⁴

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
plain and ordinary meaning – able to be controlled and moved	a laser in which the laser is movable with respect to the surface of a textile material and in which the parameters that influence “energy density per unit time” are capable of adjustment	able to be physically moved and to accept user inputs

The ’196 patent resulted from a divisional application of the application leading to the ’444 patent and thus shares a common specification with the ’444 patent. The claim term “controllable movable laser” should therefore be given the same construction for the asserted claims of both patents.

D. Disputed Claim Terms from the Asserted ’505 Patent Claims

1. “mathematical operation”¹⁵

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
plain and ordinary meaning	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>	calculation

The Staff believes that while broad, the claim term “mathematical operation” is not indefinite. It has a clearly understood plain and ordinary meaning, a calculation. Respondents appear to argue that to be definite the term “mathematical operation” must be associated with a particular type of calculation or specific formula used to accomplish a particular purpose. A

¹⁴ The claim term “controllable movable laser” appears in asserted claims 5, 11, and 16 of the ’196 patent.

¹⁵ The claim term “mathematical operation” appears in asserted claims 1 and 49 of the ’505 patent.

person of ordinary skill in the art may not have been able to understand how to implement a particular mathematical operation “based on said parameters to form values which are individualized for each of a plurality of areas,” but a person of skill in the art would have had no trouble understanding what was meant by a “mathematical operation.”

E. Disputed Claim Terms from the Asserted '972 Patent Claims

1. “effective applied power” / “effective applied power levels” / “effective applied energy” / “effective output power”

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
the cumulative amount of [power/energy] incident to an area of a surface	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>

The Staff believes that these claim terms cannot be construed and thus should be found indefinite in view of the inadequate description of the terms in the '972 patent specification and claims. The '972 patent first states that “[t]he present application introduces the concept of effective applied energy” but then equates that ‘new’ term with EDPUT, referencing “effective applied energy to the material; [sic] previously described in U.S. Pat. No. 5,990,444 as the energy density per unit time level of the laser relative to the material.” Complaint Ex. 1-E, '972 patent col.3 ll.54-55, col.4 ll.10-12. The '972 patent also confusingly states that “‘effective applied energy’ can include edput, but also includes changing scan line speed, power level or speed level or duty cycle of the laser. It includes changing the distance of the laser to the material, which can defocus the laser, and thereby change the EDPUT.” *Id.* at col.3 ll.57-61. This sentence lacks clarity because EDPUT is not measured in units of energy (Joules) but in Watt sec per m³, and further because the factors following “also includes” are (1) already

reflected by the continuous power, area of spot, and speed parameters used for calculation of EDPUT and (2) are also not measured in units of energy.

Nowhere does the '972 patent explain or describe the relationship between “effective applied energy” (or power) and “applied energy” (i.e., output energy). A person of ordinary skill in the art would have been led to believe that the use of the term “effective” was a purposeful choice over simply “applied energy” but left with no guidance (such as a formula, calculation, or measurement) as to how to determine what level of the “applied energy” was “effective.” The '972 patent's reference to “effective applied power being applied in multiple sessions or times” would have been similarly confusing, as measurement of energy per second added to another without reference to an effective time interval for each would provide information less useful than the two separate values. *Id.* at col.3 ll.63-64. For example, electric bills reference kilowatt-hours as a useful measure of the cumulative electrical energy used at a particular site, not a sum of several kilowatt measurements which will reflect of a sum of energy rate usages measured (less useful even than an average rate of energy use). The '972 patent further muddies the waters by introducing the term “effective amount of energy density per [unit] time,” again without explanation of the meaning of “effective” or how the term was to be distinguished from EDPUT, “effective applied energy,” or “effective applied power.” *Id.* at col.4 ll.34-36.

This lack of clarity is reflected in the claims of the '972 patent as well. For example, claim 1 recites “storing information about effective applied power levels.” Dependent claim 2 references “*said* effective applied *power* levels” but asserted, dependent claim 19 references “*said* effective applied *energy*.” (emphasis added). Thus, claims 2 and 19 conflate effective applied power with effective applied energy without explanation. Furthermore, claim 19 states

that “said effective applied energy [measured in, e.g., Joules] is one of an energy density per unit time [measured in Watt seconds per m³], power level of a laser [measured in, e.g., Watts], a duty cycle of an output of a laser [measured as a percentage], a speed of movement of a laser [measured in, e.g., meters per second], or a distance of a laser [measured in, e.g., meters].”

Similarly, asserted, dependent claim 11 refers to “said control of effective applied power levels” of claim 1, whereas claim 1 recites “a controlled energy density per unit time which *depends on* said effective applied power levels.” (Emphasis added). Furthermore, claim 11 gives no meaning to “effective” in “effective applied power levels,” treating it as meaning the same thing as applied power or output power of the laser. A person of ordinary skill in the art would have been left without any clear understanding of the scope of the claims because he or she could only guess at the meaning of the key claim terms.

Because a person of ordinary skill in the art would not have been able to arrive at reasonably certain, objective definitions for the claim terms “effective applied power” and “effective applied energy” claim terms, the Staff believes that they are indefinite under 35 U.S.C. § 112, ¶ 2.

2. “energy density per unit time”¹⁶

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
$\left(\frac{\text{Continuous Power (watts)}}{\text{Area of Spot (mm}^2\text{)}} \right) \left(\frac{1}{\text{Speed (mm/sec)}} \right)$	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>	<i>should be given the same construction as the same term in the ’444 patent</i>

¹⁶ The claim term “energy density per unit time” appears in asserted claims 1, 19, 58, 59, 87, and 94 of the ’972 patent.

Respondents' argue the confusion and ambiguity discussed above with regard to the new claim terms of the '972 patents essentially infects the "energy density per unit time" limitation and renders it indefinite. The Staff does not agree. The Staff believes that a person of ordinary skill in the art would treat the '972 patent's (1) specific reference to energy density per unit time as defined in the '444 patent and (2) further description of the EDPUT parameters (power of the laser, spot size and scan speed of the laser system relative to the material) in a manner consistent with the definition in the '444 patent as a clear indication that "energy density per unit time" should be given the same meaning in both patents. Complaint Ex. 1-E, '972 patent col.4 ll.10-14. The Staff believes that the person of ordinary skill in the art's confusion would be limited to the relationship of EDPUT to the newly described terms in the '972 patent.

3. "undesirably damage"¹⁷

Complainant's Proposed Construction	Respondents' Proposed Construction	Staff's Proposed Construction
plain and ordinary meaning [without further explication]	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>

For the same reasons described above with regard to the "undesirable" claim terms of the '444 patent, the Staff believes that the Chief ALJ should find the term "undesirably damage" of the '972 patent to be indefinite under 35 U.S.C. § 112, ¶ 2.

¹⁷ The claim term "undesirably damage" appears in asserted claim 2 of the '972 patent.

F. Disputed Claim Terms from the Asserted '815 Patent Claims**1. “energy density per unit time”¹⁸**

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
$\left(\frac{\text{Continuous Power (watts)}}{\text{Area of Spot (mm}^2\text{)}} \right) \left(\frac{1}{\text{Speed (mm/sec)}} \right)$	<p>(Continuous power (watts) / (area of spot (mm²))) (1 / speed (mm/sec))</p> <p>where “continuous power” is a continuous power output of the laser during the scribing, “area of spot” is an area of a spot formed by the laser beam on the material when the laser beam is stationary relative to the material, and “speed” is a speed of the laser beam relative to the material during the scribing.</p>	<i>Staff believes that this claim term should be given the same construction as in the '444 patent.</i>

All parties appear to be in agreement that the claim term “energy density per unit time” should be given the same construction in the '815 patent claims as in the '444 patent claims.

2. “undesirably damaging”¹⁹

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
plain and ordinary meaning [without further explication]	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>	<i>indefinite under 35 U.S.C. § 112, ¶ 2</i>

For the same reasons described above with regard to the “undesirable” claim terms of the '444 patent, the Staff believes that the Chief ALJ should find the term “undesirably damaging” of the '815 patent to be indefinite under 35 U.S.C. § 112, ¶ 2.

¹⁸ The claim term “energy density per unit time” appears in asserted claim 13 of the '815 patent.

¹⁹ The claim term “undesirably damaging” appears in asserted claim 13 of the '815 patent.

3. “which pattern repeats across an entire unit area of the denim”²⁰

Complainant’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction
plain and ordinary meaning	wherein the pattern comprises a single unit pattern that repeats identically across the entire area of the denim alternatively: <i>indefinite under 35 U.S.C. § 112, ¶ 2</i>	wherein said pattern is repeatedly formed across the entire area of the denim

The Staff generally agrees with the arguments made by Respondents at pages 67-68 of their Opening Claim Construction Brief with regard to the discussion of this claim term in the prosecution history of the ’815 patent, but finds their proposed construction awkward. It is true that repetition of a pattern will itself form a larger pattern, but the Staff finds it unnecessary and somewhat confusing to attempt to explicitly incorporate that truism into the construction. While the patentee used the phrase “single unit pattern” in the prosecution history, the Staff finds this language unhelpful as the same concept is conveyed without introducing new terms by the language in the Staff’s proposed construction: “said pattern is repeatedly formed.” The Staff agrees with Respondents that the pattern must repeat identically but finds it unnecessary to incorporate the word “identically” into its construction because it is impossible to repeat a pattern without it being identical. If it were not identical, it would not follow the pattern nor repeat the pattern. For the same reason, the Staff disagrees with Complainants’ argument that the repetition need not be identical. Finally, a person of ordinary skill in the art would have, in the absence of contrary teaching in the specification, interpreted “entire unit area of the denim”

²⁰ The claim term “which pattern repeats across an entire unit area of the denim” appears in asserted claim 13 of the ’815 patent.

to mean entire area of the denim being marked in accordance with the use of the words “across an entire [] area.” The portion of the prosecution history cited by Respondents serves to confirm that understanding.

For these reasons, the Staff believes that “which pattern repeats across an entire unit area of the denim” should be construed as “wherein said pattern is repeatedly formed across the entire area of the denim.”

V. CONCLUSION

For the foregoing reasons, the Staff believes that the disputed claim terms of the asserted patents should be construed as set forth above.

Respectfully submitted,

/s/ Peter Sawert

Margaret D. Macdonald, Director
Anne Goalwin, Supervisory Attorney
Peter J. Sawert, Investigative Attorney
Office of Unfair Import Investigations
U.S. International Trade Commission
500 E Street SW, Suite 401
Washington, DC 20436
202-205-3228
202-205-2158 (facsimile)

January 14, 2015

**Certain Laser Abraded Denim
Garments**

Investigation No. 337-TA-930

CERTIFICATE OF SERVICE

The undersigned certifies that on January 14, 2014, he caused the foregoing **COMMISSION INVESTIGATIVE STAFF'S INITIAL CLAIM CONSTRUCTION BRIEF** to be served by hand upon Chief Administrative Law Judge Charles E. Bullock (2 copies) and served upon the parties (1 copy each) in the manner indicated below:

For Complainants RevoLaze, LLP & TechnoLines, LLC:

Mark L. Hogge, Esq.

Dentons US LLP

1301 K Street, N.W.

Washington, D.C. 20005

BY ELECTRONIC MAIL

RevoLazeITC@dentons.com

For Respondents Buffalo International ULC & 172498 Alberta ULC:

Gregory F. Ahrens, Esq.

Wood, Herron & Evans, L.L.P.

441 Vine Street

Cincinnati, OH 45202

BY ELECTRONIC MAIL

gahrens@whe-law.com

For Respondents H&M Hennes & Mauritz L.P. & H&M Hennes & Mauritz AB:

Staci Jennifer Riordan, Esq.

Nixon Peabody LLP

555 West Fifth Street, 46th Floor

Los Angeles, CA 90013-1010

BY ELECTRONIC MAIL

sriordan@nixonpeabody.com

For Respondent Diesel S.p.A.:

Anthony W. Shaw, Esq.

Arent Fox LLP

1717 K Street, NW

Washington, DC 20006-5344

BY ELECTRONIC MAIL

DIESELITC@arentfox.com

For Respondent Koos Manufacturing, Inc.:

Brian K. Brookley, Esq.

Tucker Ellis LLP

515 South Flower Street

Forty-Second Floor

Los Angeles, CA 90071-2223

BY ELECTRONIC MAIL

brian.brookey@tuckerellis.com

For Respondent DL1961 Premium Denim, Inc.:

Joseph A. Martin, Esq.

Archer & Greiner, P.C.

One Centennial Square

Haddonfield, NJ 08033

BY ELECTRONIC MAIL

jmartin@archerlaw.com

For Respondent VF Corporation:

Bruce S. Sostek, Esq.
Thompson & Knight, LLP
1722 Routh Street, Suite 1500
Dallas, TX 75201

BY ELECTRONIC MAIL

VFCorp-ITC@tklaw.com

For Respondent Fashion Box S.p.A.:
Peter I. Bernstein, Esq.
Scully, Scott, Murphy, & Presser, P.C.
400 Garden City Plaza, Suite 300
Garden City, New York 11530

BY ELECTRONIC MAIL

FashionBoxITC@ssmp.com

For Respondent Lucky Brand Dungarees, Inc.:
Barbara A. Murphy, Esq.
Foster, Murphy, Altman & Nickel, PC
1899 L Street, N.W., Suite 1150
Washington, DC 20036

BY ELECTRONIC MAIL

FM-Lucky-930@fostermurphy.com

For Respondent Roberto Cavalli S.p.A.:
Adam R. Hess, Esq.
Venable LLP
557 7th Street, N.W.
Washington, DC 20004-1604

BY ELECTRONIC MAIL

ARHess@Venable.com

For Respondent Abercrombie & Fitch Co.:
Andrew F. Pratt, Esq.
Venable LLP
557 7th Street, N.W.
Washington, DC 20004-1604

BY ELECTRONIC MAIL

AFPratt@Venable.com

For Respondents Eddie Bauer LLC & The Buckle, Inc.:
D. Sean Trainor, Esq.
Kirkland & Ellis LLP
665 Fifteenth Street, N.W.
Washington, DC 20005

BY ELECTRONIC MAIL

930ITC@kirkland.com

For Respondent American Eagle Outfitters Inc.:
Stephen J. Rosenman, Esq.
Ropes & Gray LLP
One Metro Center
700 12th Street, N.W., Suite 900
Washington, DC 20005

BY ELECTRONIC MAIL

AEO_ITC_Service@ropesgray.com

For Respondent Guess?, Inc.:
Stephen R. Smith, Esq.
Cooley LLP
1229 Pennsylvania Avenue, N.W., Suite 700
Washington, DC 20004

BY ELECTRONIC MAIL

Guess-ITC@cooley.com

For Respondent Levi Strauss & Co.:
Louis S. Mastriani, Esq.
Adduci Mastriani & Schaumberg LLP
1133 Connecticut Avenue, N.W.
Washington, DC 20036

BY ELECTRONIC MAIL

LEVISTRAUSS-REVOLAZEITC@adduci.com

For Respondent The Gap, Inc.:

Marcia H. Sundeen, Esq.
Kenyon & Kenyon LLP
1500 K Street, N.W.
Washington, DC 20005-1257

BY ELECTRONIC MAIL

GapITC@kenyon.com

For Respondent BBC Apparel Group, LLC:
BBC Apparel Group
1407 Broadway, Suite 503
New York, New York 10018

BY FIRST CLASS MAIL

For Respondent Gotham Licensing Group, LLC:
Gotham Licensing Group, LLC
1407 Broadway, Suite 506
New York, New York 10018

BY FIRST CLASS MAIL

/s/ Peter Sawert

Peter J. Sawert
Investigative Attorney
OFFICE OF UNFAIR IMPORT INVESTIGATIONS
U.S. International Trade Commission
500 E Street SW, Suite 401
Washington, DC 20436
(202) 205-2580
(202) 205-2158 (facsimile)